WHAT IS CLAIMED IS:

1. A communication apparatus connected to a communication channel, comprising:

a voice coding unit for code-compressing a voice signal inputted and thereby generating voice information,

a DTMF detecting unit for detecting a DTMF signal from said voice signal,

a DTMF coding unit for, when this DTMF detecting unit has detected a DTMF signal, coding this DTMF signal into a specified form and thereby generating DTMF information, and

an information outputting unit for outputting the voice information generated by said voice coding unit and/or the DTMF information generated by said DTMF coding unit to said communication channel.

2. A communication apparatus according to claim 1, wherein:

said DTMF detecting unit has a DTMF signal monitoring unit for monitoring that it has detected said DTMF signal continuously for a predetermined time or longer and, when this DTMF signal monitoring unit has detected said DTMF signal continuously for a predetermined time or longer, judges that said DTMF signal has been detected from said voice signal.

3. A communication apparatus according to claim 1, further comprising an ATM cell generating unit for converting said voice information or said DTMF information into an ATM cell in an ATM cell form, wherein:

said information outputting unit outputs said voice information and/or said DTMF information converted into a cell by said ATM cell generating unit to said communication channel in said ATM cell form.

4. A communication apparatus according to claim 1, wherein:

said DTMF information has a header portion indicating destination information and a payload portion containing DTMF code information indicating the code of said DTMF signal and signal detecting time information indicating the time of detecting this DTMF signal.

5. A communication apparatus according to claim 4, wherein:

said DTMF detecting unit has a measuring unit for measuring the signal detecting time of said DTMF signal and an analyzing unit for analyzing the code of said DTMF signal, and

said DTMF coding unit, when said DTMF signal has been detected continuously for a predetermined time or longer, generates said signal detecting time information on the basis of the result of measurement of said measuring unit, generates said DTMF code information on the basis of the result of analysis of said analyzing unit, and generates said DTMF information including these signal detecting time information and DTM code information.

6. A communication apparatus connected to a communication channel, comprising:

a voice decoding unit for generating a voice signal by decoding code-compressed voice information contained in received information received from said communication channel,

a DTMF information detecting unit for detecting that said received information is DTMF information,

a DTMF decoding unit for, when this DTMF information detecting unit has detected DTMF information, decoding this DTMF information and thereby generating the content of DTMF,

a DTMF signal generating unit for generating a DTMF signal on the basis of the content of DTMF generated by this DTMF decoding unit, and

a voice outputting unit for outputting a voice signal generated by said voice decoding unit or a DTMF signal generated by said DTMF signal generating unit.

7. A communication apparatus according to claim 6, further comprising an ATM cell decomposing (de-celling) unit for, when said received information has been detected in an ATM cell form, cell-decomposing (de-celling) this received information.

8. A communication apparatus according to claim 6, wherein:

said DTMF information has a header portion indicating destination information and a payload portion containing DTMF code information indicating the code of said DTMF signal and signal detecting time information indicating the signal detecting time of this DTMF signal.

9. A communication apparatus according to claim 8, wherein:

said DTMF decoding unit decodes said DTMF information and generates the content of DTMF including said DTMF code information and signal detecting time information, and

said DTMF signal generating unit generates said DTMF signal on the basis of DTMF code information and signal detecting time information of the content of DTMF generated by said DTMF decoding unit.